

Guide to the Pacific Shellfish Aquaculture Application

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INTRODUCTION

Multiple agencies participate in the harmonized application review process.

Fisheries and Oceans Canada (DFO) is the agency responsible for regulating, monitoring and licensing all marine finfish, shellfish, freshwater and landbased aquaculture operations in the province. DFO's responsibility includes most aspects of the aquaculture industry including, but not limited to: species cultured, production practices and volumes, fish containment, fish health, marine mammal interactions and fish habitat protection measures.

Transport Canada (TC) is the federal department responsible for reviewing and approving applications for the placement of aquaculture containment and/or structures within the navigable waters of Canada.

The Ministry of Forests, Lands and Natural Resource Operations and Rural Development is the provincial ministry responsible for managing Crown land, including the issuance of land tenures. This includes tenures for aquaculture facilities and ancillary uses on land covered by water, upland and foreshore. The Ministry is also responsible for the management and licensing of wild harvest and culture of aquatic plants.

The Guide to the Pacific Shellfish Aquaculture Application ("the guide") describes the information required by the federal and provincial agencies to review an application for a marine-based shellfish aquaculture facility in British Columbia.

An application must be submitted for any of the following:

- A new shellfish aquaculture facility;
- An amendment to an existing federal aquaculture licence or provincial Crown land tenure, such as:
 - Change in tenure area
 - Change in species and/or production
 - Change in infrastructure

- A rebuild, repair or alteration of an existing aquaculture facility that has a *Navigation Protection Act* (NPA) authorization.

As applicable, the federal and provincial agencies will coordinate the review and assessment of applications, including government agency referrals, First Nation consultation, and public comments, and work to synchronize decision making.

At the completion of the review process each agency will make its independent decision under the relevant legislation.

Please note, in addition to the harmonized application form, there may be additional provincial authorizations required for a facility that need to be submitted on separate applications.

PRE-APPLICATION CONSIDERATIONS

It is in the best interest of the proponent to follow the recommendations below as this information may affect the feasibility of the proposal:

- Use the provincial [Natural Resource Sector Online Services](#) or the [iMapBC](#) mapping tool to identify interests or conflicts overlapping or in the vicinity of the proposed area;
- Consult the [Introductions and Transfers Committee](#) (ITC) for advice on applicability of proposed species;
- Check the [Water Classification and status of biotoxin monitoring](#) on the DFO website;
- Ensure the area is zoned for the intended use by contacting [local government](#) and reviewing [land use plans](#) or coastal and marine plans;
- Consider information sharing with First Nations.

Note: For a shellfish **Hatchery Operation** where the culture activity is proposed to be located on land, use the **PACIFIC FRESHWATER/LAND-BASED AQUACULTURE APPLICATION**.

CHANGE IN OWNERSHIP

For a change in tenure ownership contact westcoast.landreferrals@gov.bc.ca and provide your contact information and tenure file number.

Once a tenure is transferred to a new owner, you must contact DFO at:

amdreferral.xpac@dfo-mpo.gc.ca to request a transfer of the federal aquaculture licence.

CONSIDERATIONS FOR APPLICATIONS

Under the *Pacific Aquaculture Regulations*, Fisheries and Oceans Canada considers species as well as water classification during the review of licence applications.

Species Considerations

Sea Cucumber, Spot Prawn, Sea Urchin, Dungeness Crab

DFO is committed to developing a management approach that provides aquaculture opportunities while supporting the conservation and long-term sustainability of wild fisheries and ecosystems. DFO is working to develop phased, integrated approaches for the development of aquaculture involving new and emerging species. In developing these approaches, DFO will consider the following: science advice, existing policy, socio-economic factors and the risk associated with potential genetic, ecological and disease impacts.

Until these phased approaches are in place, DFO will not be considering applications for sea cucumber, spot prawn or sea urchin aquaculture under the *Pacific Aquaculture Regulations*.

Varnish Clam

Varnish Clams (*Nuttallia obscurata*) are an invasive species and not currently permitted for cultivation. Under existing Shellfish Conditions of Licence, valid licence holders may harvest varnish clam as incidental catch. Text has been added to the top of the valid [Shellfish Licence Holders list](#), thereby permitting varnish clam as incidental catch to be accepted by processing plants.

Geoduck

In March 2017, DFO released the [Integrated Geoduck Management Framework](#) (IGMF). The Framework provides policy guidance for the integrated management of both wild and aquaculture geoduck fisheries in BC. The siting guidelines and [IGMF maps](#) are provided as a general guide for individuals applying for geoduck aquaculture licences.

Any questions or concerns regarding the IGMF can be directed to: shellfish.aquaculture@dfo-mpo.gc.ca.

Species at Risk

Olympia Oyster

The Olympia Oyster (*Ostrea conchaphila*) is listed as a species of special concern under the *Species at Risk Act* (SARA). The SARA Management Plan for Olympia Oyster, developed in 2009, recommends maintaining restrictions on wild commercial and recreational harvest. Further work must be undertaken to assess Olympia Oyster populations and genetic stocks, including potential impacts of Olympia Oyster aquaculture.

In keeping with the intent of the SARA Management Plan, DFO will not consider any applications for Olympia Oyster aquaculture at this time.

Northern Abalone

The Northern Abalone (*Haliotis kamtschatkana*) is listed as an endangered species under SARA. In order to cultivate this species, an exemption under Section 73 of SARA would be required and the cultivation would need to relate to the recovery of Northern Abalone.

The existing Recovery Plan does not include cultivation as a strategy for recovery, therefore DFO will not consider any applications for Northern Abalone aquaculture.

Water Classification and Biotoxin Monitoring Considerations

Unclassified Waters and/or Where Biotoxin Monitoring Does Not Exist

Approval of a shellfish aquaculture application, under the *Pacific Aquaculture Regulations*, is not possible in unclassified waters or where biotoxin monitoring does not exist. Classification requires that water quality be surveyed and that actual and potential sources of pollution be identified. This minimizes the potential health risks associated with consuming bivalve molluscan shellfish and protects public health.

The classification of waters and biotoxin monitoring is the responsibility of the Canadian Shellfish Sanitation Program (CSSP). The CSSP is a federal food safety program jointly administered by the Canadian Food Inspection Agency (CFIA), Environment and Climate Change Canada (ECCC) and DFO.

The goal of the program is to protect Canadians from the health risks associated with the consumption of contaminated bivalve molluscan shellfish (for example, mussels, scallops, oysters and clams). Under the CSSP, DFO is responsible for issuing licences that authorize harvest from contaminated areas, the enforcement of closure regulations and enacting the opening and closing of shellfish areas under the authority of the *Fisheries Act* and Regulations. Information about the [Canadian Shellfish Sanitation Program](#) is available online.

A proponent may make a request to the Pacific Region Interdepartmental Shellfish Committee (PRISC), requesting classification of a new area or biotoxin monitoring. The request must be in writing and include a detailed location description with coordinates and a map, a summary of the proposed aquaculture operation, species, and the techniques planned (i.e. intertidal beach, deepwater suspended gear, etc.). PRISC will consider the priority of new classification or monitoring requests in the context of work planning and resources available.

A proponent interested in having an area classified or monitored for biotoxins should provide the requested information, or direct any questions to shellfish.aquaculture@dfo-mpo.gc.ca.

Up to date information on Pacific Region [biotoxin and sanitary closures](#) can be found online.

Prohibited Waters

Approval of a shellfish aquaculture application for bivalves (with the exception of seed) under the *Pacific Aquaculture Regulations* is not possible in waters where significant portions of the tenure are classified as Prohibited.

Applications that include minor areas classified as Prohibited within the tenure boundaries, (i.e. 125m from floating living accommodation, or a moorage facility) may be accepted if the applicant is aware of, and agrees to, the limitations of these areas for aquaculture use.

Restricted Waters

CSSP partners do not currently have decontamination data for scallops, mussels, Butter Clam, cockle or Geoduck Clam for relay or depuration processes; thus, approval of a shellfish aquaculture licence for the above-mentioned species under the *Pacific Aquaculture Regulations* is not possible in waters classified as Restricted.

Management of Contaminated Fisheries Regulations

For species other than those listed above, or for the culture of seed in Prohibited waters, the applicant must apply for a licence issued under authority the [Management of Contaminated Fisheries Regulations](#).

For more information on the MCFR contact DFO at: DFO.depuration@dfo-mpo.gc.ca

ELIGIBILITY REQUIREMENTS

To apply for Pacific Shellfish Aquaculture authorizations, an applicant must meet the following requirements:

Provincial Requirements

To be eligible for a Crown land tenure under the BC *Land Act*, applicants must be:

- Canadian citizens or permanent residents 19 years of age or older; or,
- Corporations that are incorporated or registered in British Columbia. Corporations also include registered partnerships, cooperatives or non-profit societies formed under the relevant Provincial statutes.
- First Nations can apply through Band corporations or Indian Band and Tribal Councils. Band or Tribal Councils require a Band Council Resolution a) authorizing the council to enter into the tenure arrangement, and b) giving the signatories of the tenure document the ability to sign on behalf of the Band. For tenures to be registered in the Land Title Office, First Nations must apply through either a Band corporation or trustees. Band members can elect 1 or more trustees to hold a tenure on behalf of the Band. Verification of election must be by way of a letter signed by the Chief and councilors of the Band, giving the full names of the trustees and stating that they were elected at a properly convened meeting of the Band. A Band Council Resolution is not required.
- In the case of aquatic land, non-Canadians or non-Canadian companies who are incorporated or registered in BC can apply if they own the adjacent upland. This provision applies to applications for commercial as well as private purposes.

Fisheries and Oceans Canada Requirements

To be eligible for an aquaculture licence under the *Pacific Aquaculture Regulations, Fisheries Act* (Canada), applicants must be:

- Individual(s) or companies legally entitled to operate a business in Canada; and
- Individual(s) at least 19 years of age.

Transport Canada Requirements

To be eligible for a *Navigation Protection Act* (NPA) approval, applicants may be:

- A federal, provincial, or municipal government; or
- A person, company, organization or Crown Corporation.

GLOSSARY

Access - Means the harvest of wild aquatic stock for aquaculture purposes (relay, ongrowing, brood stock, etc.).

Amendment – Means a change to an existing authorization.

Application Package - Means the Pacific Shellfish Aquaculture Application and supporting materials required to evaluate an aquaculture proposal and issue approvals under the *Fisheries Act (Pacific Aquaculture Regulations)*, *Navigation Protection Act* and/or *BC Land Act*.

Bivalve Shellfish - Means molluscs that have a two-part hinged shell, such as clams, oysters, mussels and scallops.

By-catch - Means non-cultivated individuals of the licensed species taken in addition to the fish deliberately placed on the licensed area.

Chart Datum - Means the level of water from which charted depths displayed on a nautical chart are measured.

Deepwater/Suspended – Means culture activities that involve suspending growing shellfish within the water column, off the bottom of the body of water (usually using containers suspended from rafts or longlines).

Fish - Means shellfish, crustaceans, marine animals and any parts of shellfish, crustaceans or marine animals, and the eggs, sperm, spawn, larvae, spat and juvenile stages of fish, shellfish, crustaceans and marine animals.

Fish Habitat - Means spawning grounds and nursery, rearing, food supply and migration areas on which fish depend directly or indirectly to carry out their life processes.

FLUPSY - Means floating upwelling nursery system that promotes growth of spat of various species.

Glass Sponge Complex - Means structure forming Hexactinellid sponges. Sponges growing in relatively close association, thus providing valuable

three-dimensional habitat, will be considered a sponge complex.

Sponge complexes can be found growing on multiple planes (e.g. growing on a rock wall).

Grow-out - Means cultivation of a product from seed or spat to market size or harvest.

Intertidal - Means the area between high tide and chart datum.

Intertidal Remote Setting - Means the practice of transferring larval bivalves to a nursery structure established in the intertidal zone to allow the shellfish larva to set onto the provided substrate.

Introduction - Means the transport and release of live fish (seed, spat, eggs, juveniles or adults) into waters outside their present range and includes movement of fish from a hatchery or other fish breeding or holding facility to the marine environment.

Introductions and Transfers Committee (ITC) - Means the Federal-Provincial joint committee responsible for reviewing applications for the introductions and transfers of fish and providing recommendations on issuance of the associated licences.

Kelp Beds - Means areas with aggregation of species of kelps. Kelps are commonly known as brown kelp and can form both canopy and understory beds. Examples of species commonly referred to as kelps include bull kelp (*Nereocystis luetkeana*), giant kelp (*Macrocystis pyrifera*) and sugar kelp (*Laminaria saccharina*).

Marine Riparian Area - Means the portion of land 30 meters inland from the natural boundary (high water mark).

Mitigation Measures - Means actions taken during the planning, design, construction and operation of works and undertakings to alleviate potential adverse effects on the productive capacity of fish habitat.

Nursery Infrastructure - Means the structures that are designed to set and collect seed or spat and shelter juvenile shellfish prior to outplanting in grow-out systems or areas.

Relay – Means the transfer of shellfish from marginally contaminated areas to approved areas for natural biological cleansing using the ambient environment as a treatment system.

Rocky Reefs - Means a 3-dimensional creviced habitat formed or constructed of hard substrate.

SARA Listed Species Critical Habitat - Means the habitat that is necessary for the survival or recovery of a listed wildlife species and that is identified as the species' critical habitat in the recovery strategy or in an action plan for the species.

Sea whip or Sea Pen Colonies - Means an aggregation of sea whips (gorgonian corals) or sea pens (colonial marine cnidarians).

Seed - Means a submarket size bivalve shellfish requiring a minimum of 6 months to reach market size under normal growing conditions.

Shellfish – Means an aquatic shelled mollusc (i.e. an oyster or cockle) or a crustacean (i.e. a crab or shrimp).

Spat - Means the spawn or larvae of oysters or similar shellfish.

Substrate Modification - Means any activity undertaken or structure installed that results in the redistribution of substrates and/or changes to the grain size composition of the substrate. Examples include, but are not limited to, construction of rock berms, grading, trenching, and substrate addition.

Subtidal - refers to the area of the sea floor below chart datum.

Tenure - Means a provincial authorization issued under the authority of the *Land Act* to allow for use and occupancy of the provincially owned Crown land or Crown land covered by water.

Transfer - Means the movement of individuals of a species or population of live fish (seed, spat, eggs, juveniles or adults) from one location to another within its present range and includes transfers to or from a hatchery or other fish breeding or holding facility.

Third Party Assessment - Means an assessment undertaken by someone other than the government or the applicant.

PART I – GENERAL INFORMATION

APPLICANT INFORMATION

For applications with more than two applicants, each individual must complete and submit Part I, Section B2: Individual Applicant Information. One individual must be identified as the primary contact for all applicants as aquaculture licence, tenure documentation, notifications and fees will only be sent to the primary contact.

NEW APPLICATIONS VERSUS AMENDMENTS

There are two harmonized application forms:

1. New application – this form is required for any aquaculture site which has not existed previously.
2. Amendment application – this form is used to apply for changes to: the tenure area, species, production, and/or to infrastructure.

Unless otherwise indicated, the following sections apply to both new and amendment applications. Please note there is a small section pertaining only to amendments later in this document.

SITE GENERAL INFORMATION

Land Ownership and/or Tenure Type

Depending on the ownership or controlling interest of land in your area of interest, there may be different requirements.

Provincial Crown land:

- If you are intending to use Crown land or Crown land covered by water, a *Land Act* authorization is required. Applications for marine-based aquaculture sites are submitted using the harmonized application form. Crown upland sites, such as hatcheries, are applied for under the [Commercial or Industrial](#) policies.
- If there is an existing tenure in your area of interest and you have an agreement with that tenure holder you may require a sub-lease agreement approved by the province; contact westcoast.landreferrals@gov.bc.ca for more information.
- If the land is within a provincial park or conservancy, a [Park Use Permit](#) is required. Prior to completion of a harmonized application, it is recommended that you consult with BC Parks to assess feasibility of your proposal within a provincial park or conservancy.

Private land, Federal land or Harbour Authority:

- If your proposal falls within land that is not Provincial Crown land you will need to contact the land owner or controlling interest (e.g. harbour authority) to obtain authorization to operate.

First Nations Reserve:

- First Nations intending to operate fully on Reserve land do not require a provincial authorization.

Legal Description

If surveyed, provide the legal description as provided by the Land Title Office, e.g., Lot 1 of Section 31, Township 12 W6M Kamloops Division of Yale District Plan 18411.

A legal description is found in the Certificate of Title. A copy of the Certificate of Title must be attached to the application along with a copy of your Registered Survey Plan, if available.

If not surveyed, provide metes and bounds as described in the document *iMapBC Instructions for Aquaculture Applications*, available on the Province's [Land Use – Aquaculture](#) web page.

Global Positioning System coordinates for the center of the application area/tenure

Global Positioning System (GPS) are required to depict the general site location for aquaculture mapping purposes. For new applications record the center of the proposed tenure area, and for amendments record the center of the new total tenure area (existing and proposed).

These coordinates may be derived by:

- Differential GPS;
- GIS using digital mapping program i.e. iMapBC; or
- [Canadian Hydrographic Service](#) (CHS) charts.

Provide the latitude and longitude for the center of the proposed area in degrees decimal minutes or degrees, minutes, seconds.

Note: To convert Decimal Degrees to Degree Decimal Minutes:

For the latitude 45.57463°, 45 is the Degree Value 0.574639 can be converted to the Decimal Minutes value by multiplying by 60 = 45 Deg 34.478 Min (45°34.478')

To convert Decimal Degrees to Degrees Minutes Seconds:

Continue on with calculation above to convert the minutes value to seconds 0.478 can be converted to the Decimal Seconds value by multiplying by 60 = 45 Deg 34 Min 28.7 Sec (45°34'28.7")

On-line calculators are also available.

FIRST NATIONS CONSIDERATIONS

Canada and the Province of British Columbia are legally obligated to consult and, where appropriate, accommodate First Nations on decisions that could impact treaty rights or aboriginal rights and title (“Aboriginal Interests”). Federal and Provincial decision-makers are responsible for ensuring adequate and appropriate consultation and accommodations.

Proponents are encouraged to engage with First Nations as early as possible in the planning stages to build relationships and for information sharing purposes. You may use the Province’s [Consultative Areas Database](#) to identify which First Nations to engage.

For more information, please review the Provincial website: ‘[Consulting with First Nations](#)’; specifically proponents are advised to review: “[Guide to Involving Proponents When Consulting First Nations](#)”.

For applications put forward by or on behalf of Indigenous or First Nations individuals, organizations or corporations contact shellfish.aquaculture@dfo-mpo.gc.ca for additional resource materials and information.

Why is the Government required to consult First Nations regarding my application?

The courts have determined that the Crown has a legal duty to consult First Nations and seek to address their concerns before potentially impacting treaty rights or asserted or established aboriginal rights and title (“Aboriginal Interests”). This duty stems from a constitutional obligation arising from the recognition of aboriginal and treaty rights in the Constitution Act, 1982.

What is an Aboriginal Interest?

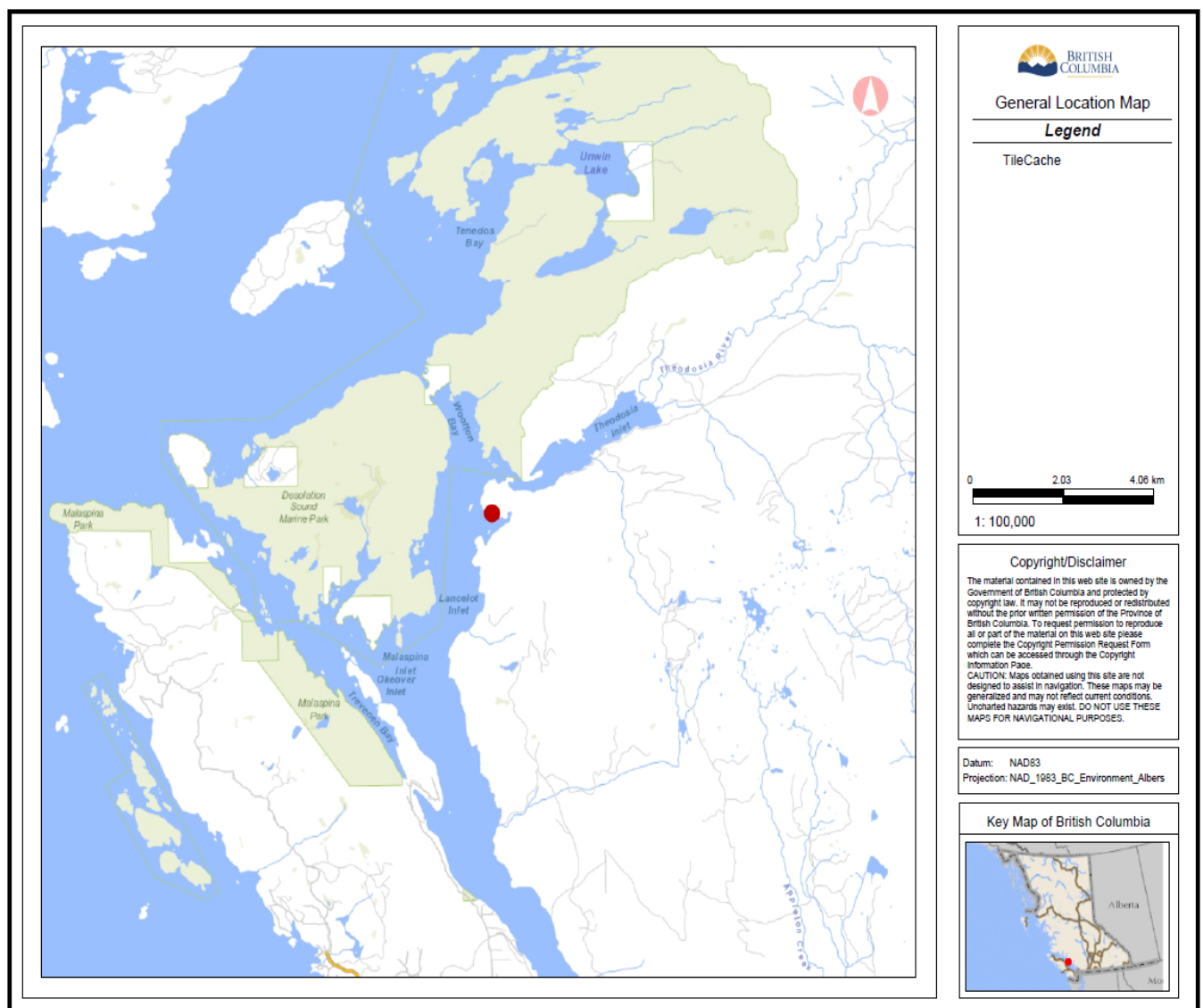
The term Aboriginal Interest refers to claimed or established treaty rights or aboriginal rights (including title). Aboriginal rights are practices or traditions integral to a First Nation culture at the time of contact. Examples include fishing, hunting and gathering plants. Aboriginal title is a subcategory of aboriginal rights that is a unique interest in land that encompasses the right to exclusive use and occupation of land for a variety of purposes. Treaty rights are held by a First Nation in accordance with the terms of a historic or modern treaty agreement with the Crown.

MAPS, DIAGRAMS AND ADDITIONAL REQUIRED DOCUMENTS

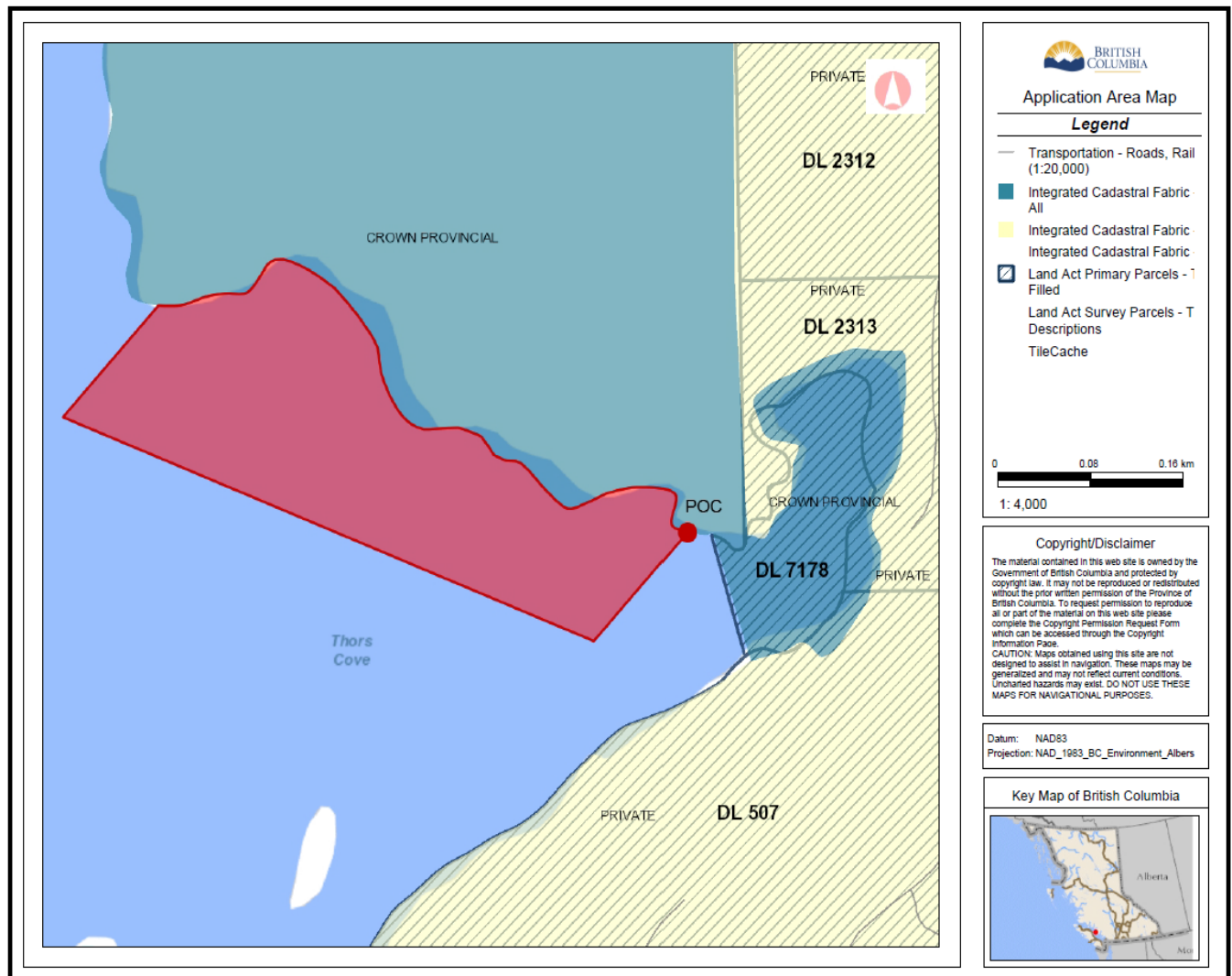
Mapping Instructions

Example maps and diagrams are provided below. For more detailed instructions on creating the general location, detailed location and application area maps using the [iMapBC](#) tool, and for instructions on how to create metes & bounds or corner point descriptions, refer to the document *iMapBC Instructions for Aquaculture Applications*, available on the provincial [Land Use – Aquaculture](#) web page.

General Location Map



Detailed Location Map



Operational Diagram Instructions for all Shellfish applications (new and amendments)

All diagrams are mandatory for new applications, please see Part I, Section A2 of the amendment application for diagram requirements for amendments.

General Location Map: A map at a scale of 1:50,000 to 1:100,000 indicating the general location of the area under application, noting the location of significant geographic features, such as island(s), mountain, road, lakes, named waterbodies, community, etc.

Application Area Map (submit one of the following):

- a) Shape file: attach a shapefile or .kmz geo-referenced to BC Albers Project (NAD 83), and including a reference map with a Point of Commencement OR
- b) Metes & Bounds: A map showing a UTM/latitude and longitude of a point of commencement (POC) and a corresponding text description on a separate piece of paper that describes the metes and bounds of the proposed shape.

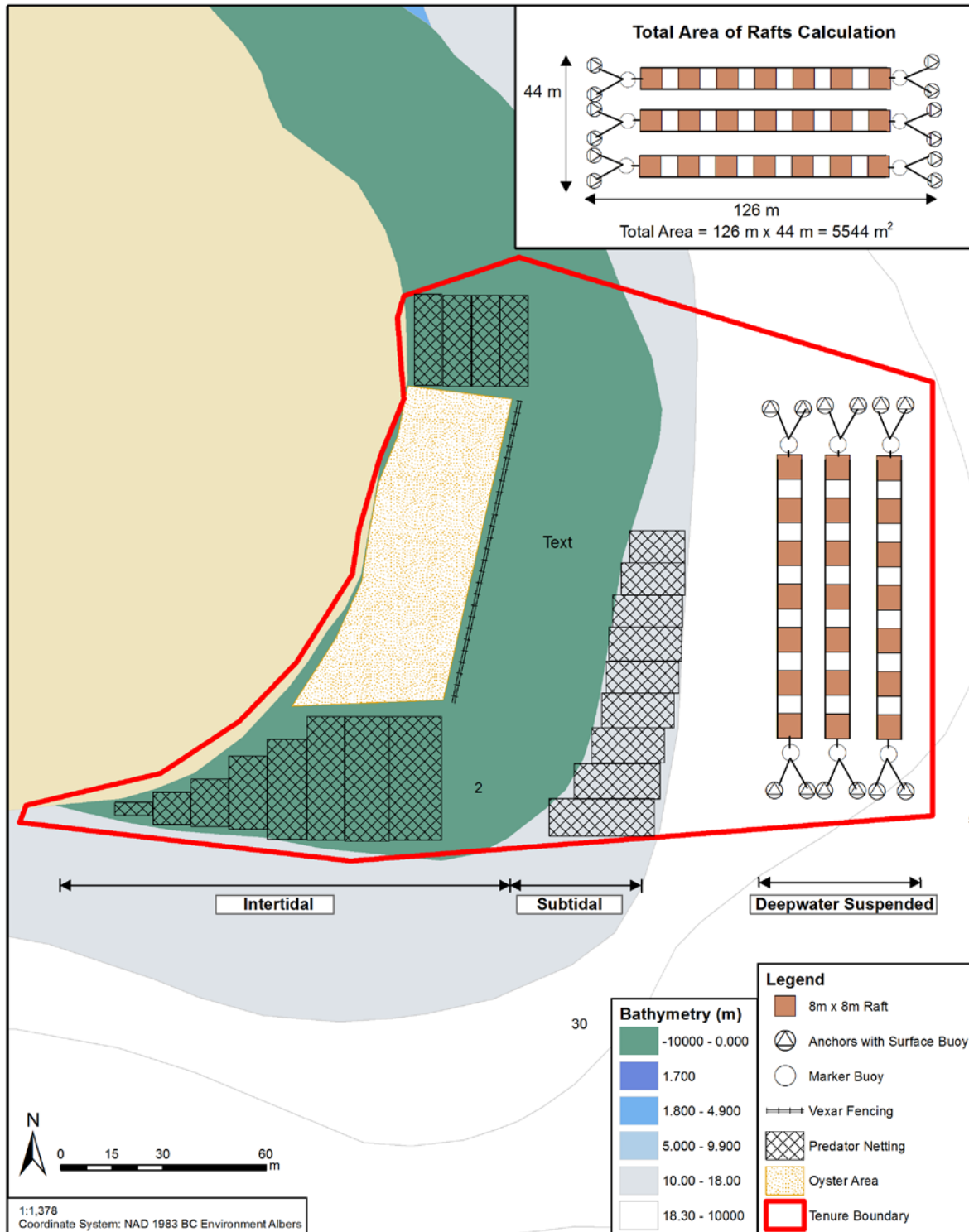
Top View Operational Diagram: A CHS Marine chart at the largest scale available for the project location that clearly shows the location of all planned infrastructure in relation to the bathymetry at the site (include more than 1 diagram if necessary).

Side View Operational Diagram, based on the culture type: A scaled schematic diagram(s) showing a side view of the proposed operation, which includes all infrastructure.

Note: The structures noted on the top and side view diagrams must be the same information contained in the Infrastructure Information table of the application.

Top View Operational Diagrams

Top View Operational Diagram

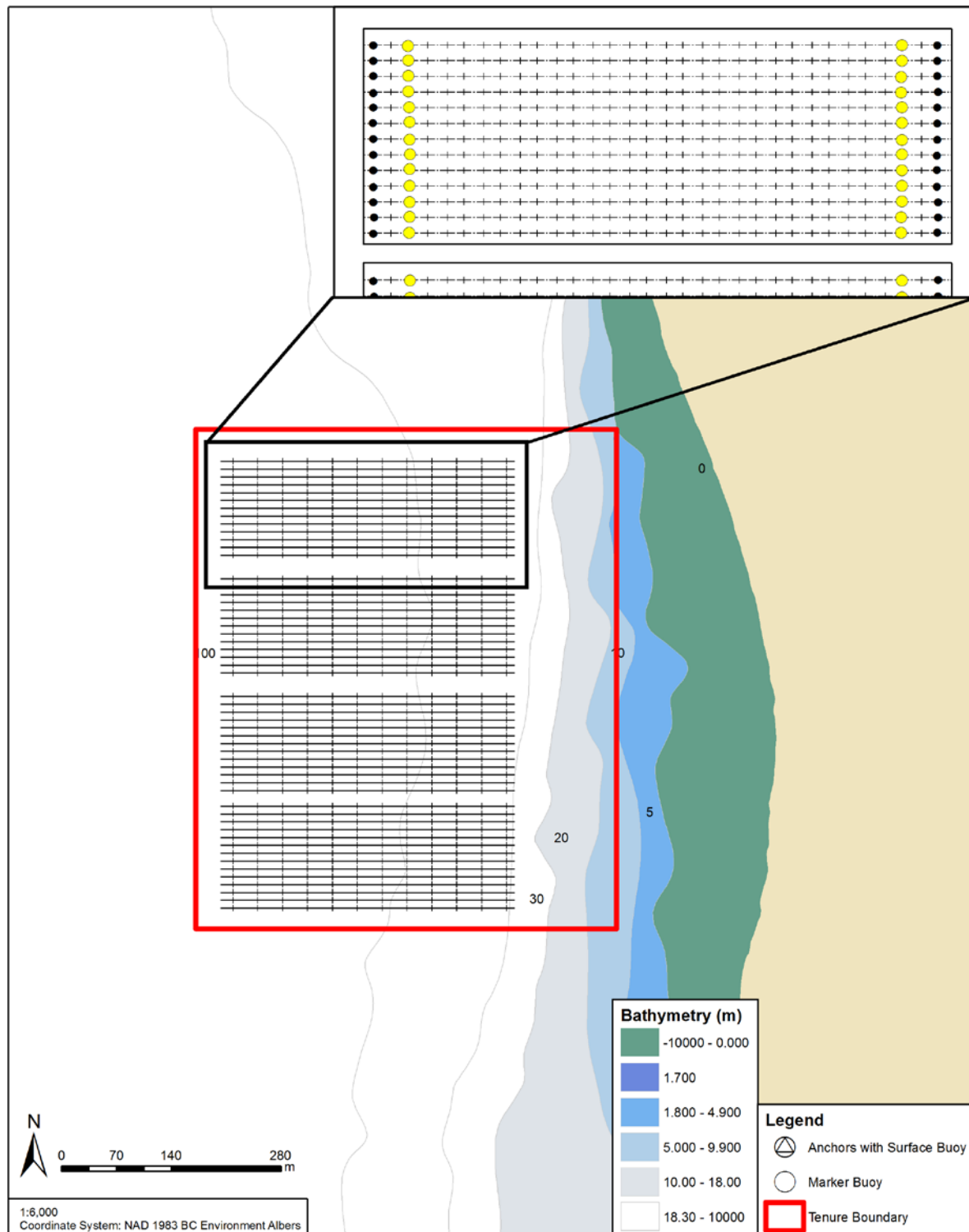


Top View Operational Diagram - Longlines



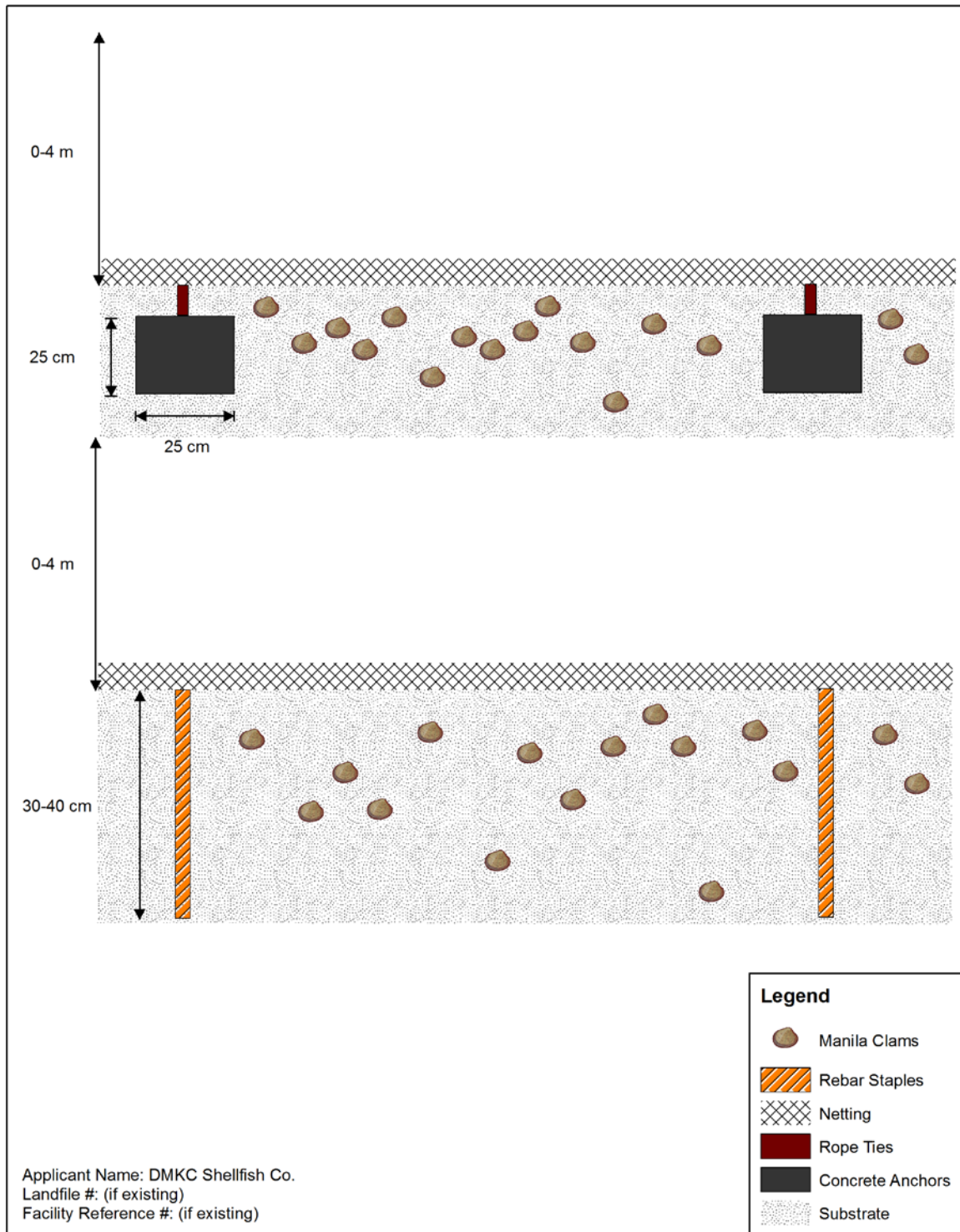
Fisheries and Oceans
Canada

Pêches et Océans
Canada

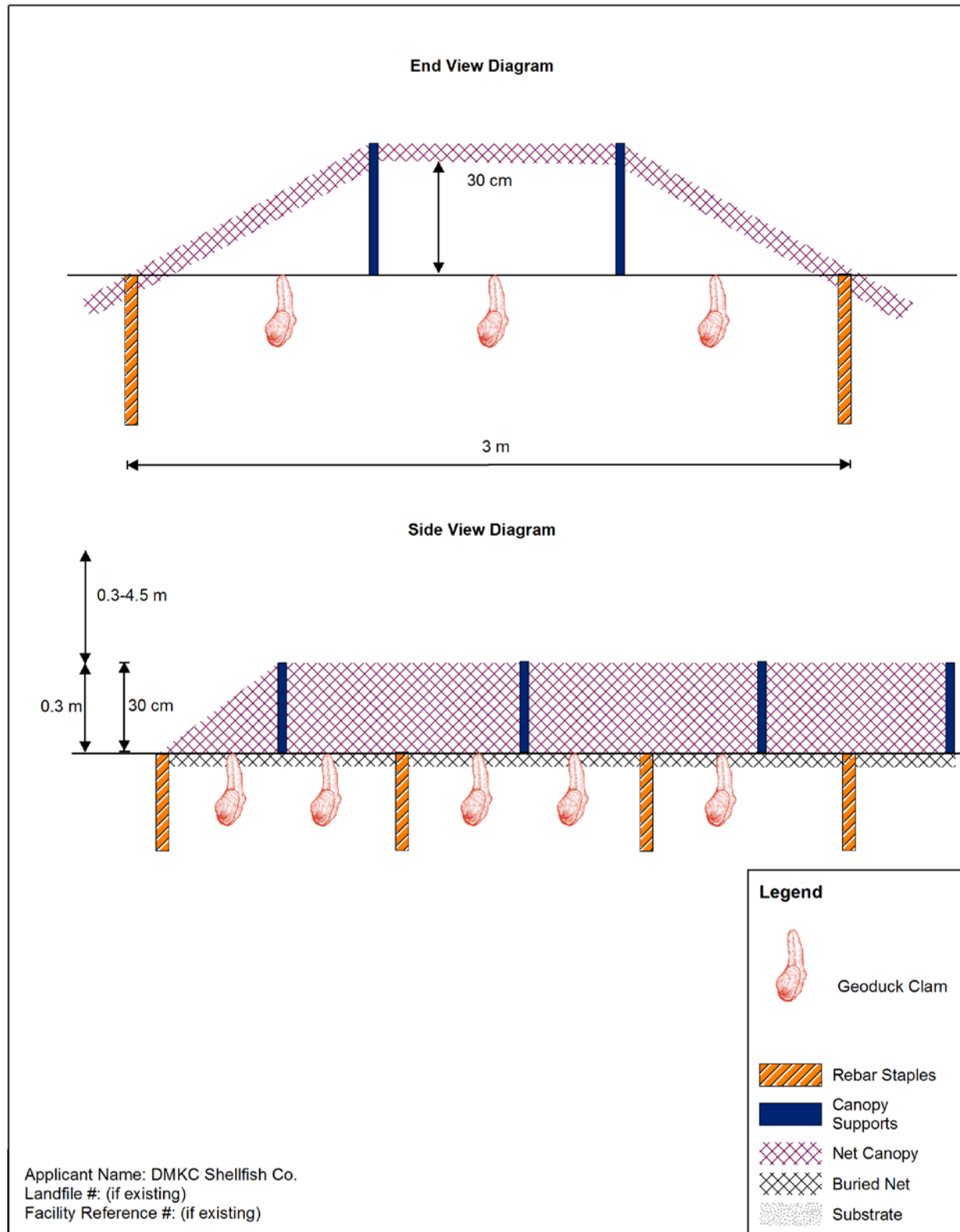


Side View Operational Diagrams

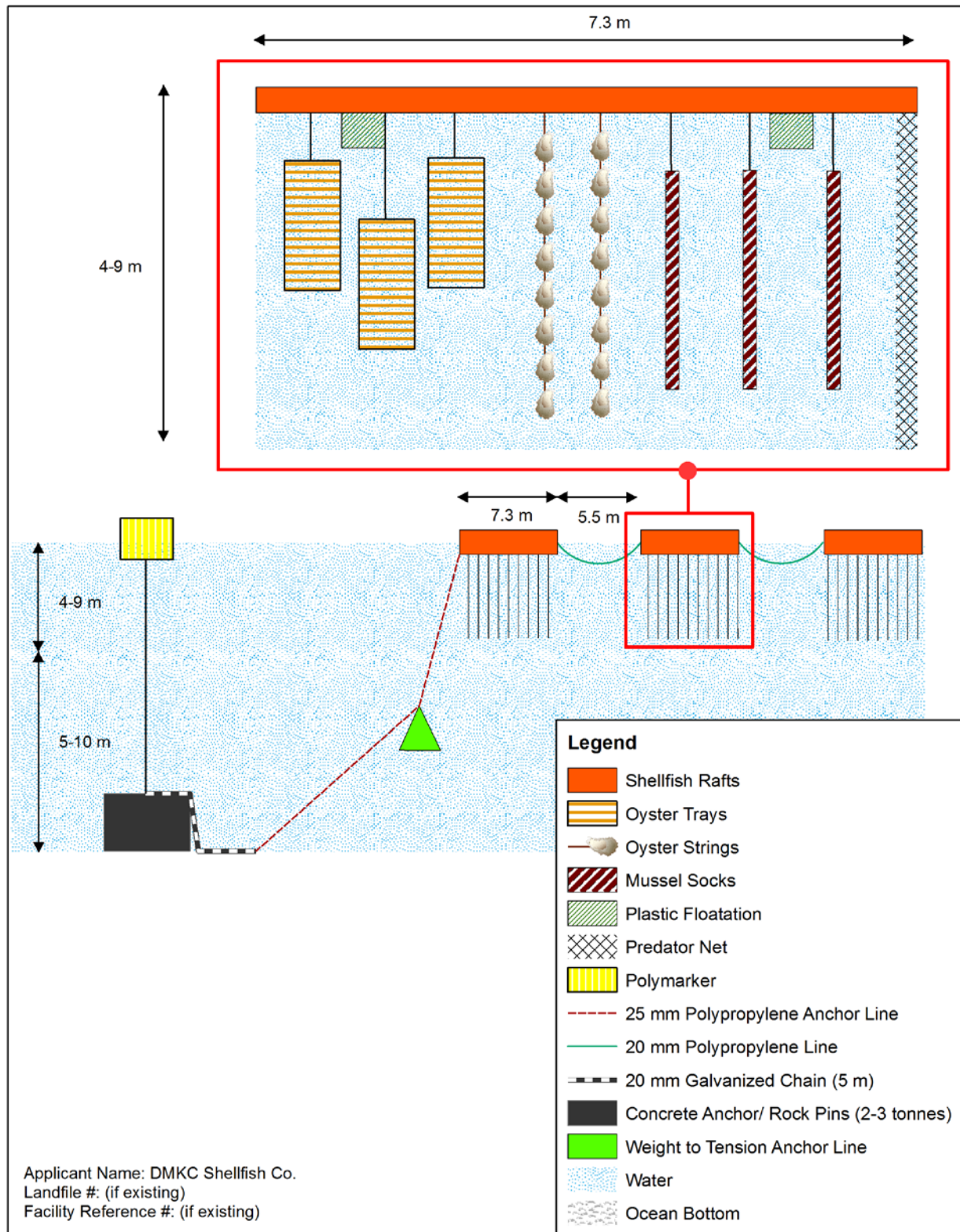
Side View Operational Diagram — Intertidal Protective Netting



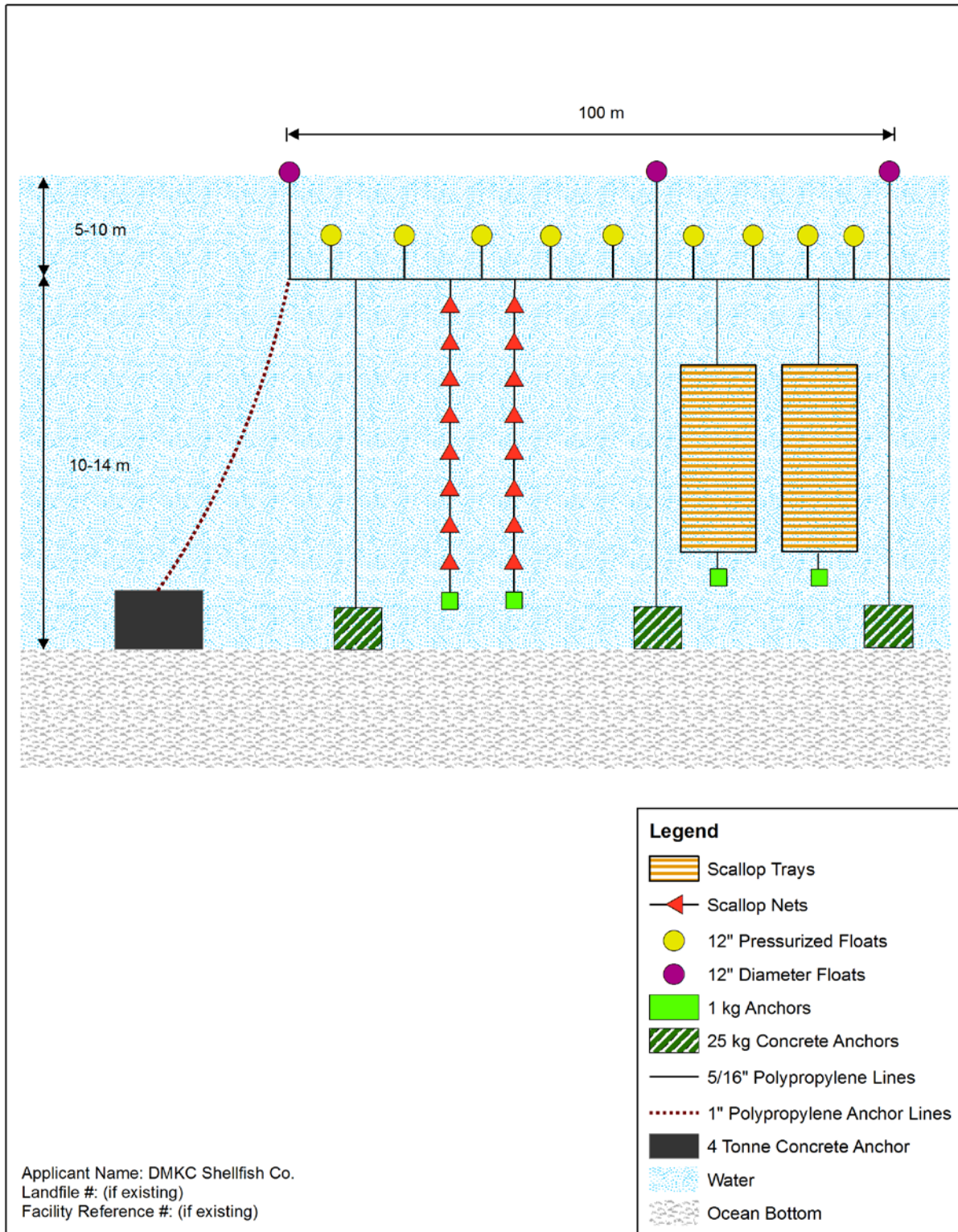
Side and End View Operational Diagrams — Subtidal Protective Netting



Side View Operational Diagram — Deepwater Suspended Rafts



Side View Operational Diagram — Deepwater Suspended Longline



CULTURE AND INFRASTRUCTURE INFORMATION

Total Culture Area

For all culture types that apply to the licensed tenure: Intertidal Beach, Deepwater Suspended, and/or Subtidal areas, provide the approximate size of the area on which aquaculture will take place.

Total Area of Structures

Total area refers to the footprint of the infrastructure that has a physical presence within the tenure area. This includes living accommodation, work floats, culture rafts, longlines, predator protection netting, predator protection tubes and FLUPSY's. Total area is not required for rack and bag systems and vexar fencing.

For example, the total area of four (4) 8 x 8 m rafts would be 256 m². The area associated with longlines is calculated by multiplying the length (or average length) of longlines by the width of the longline grid. The top view operational diagram (inset map) contains an example of how to calculate total area of culture for rafts.

Proposed Infrastructure

Living Accommodation and Work Float with Toilet

- In accordance with the Canadian Shellfish Sanitation Program (CSSP) [Manual of Operations](#), bivalve shellfish (clams, oysters, mussels, and scallops) shall not be cultivated, stored, or harvested within 125 m of any floating living accommodation unless the shellfish are seed and the activity is authorized by a separate licence. Additional information regarding the [CSSP](#) is available online.
- If an approved Zero Discharge Waste Management Plan (ZDWMP) is in place, the Prohibited area may be reduced to a 25m radius. The ZDWMP guidelines are available from shellfish.aquaculture@dfo-mpo.gc.ca

Predator Netting and Protection Tubes

All structures used to protect growing shellfish from predators, such as predator nets, tubes, etc. must be:

- constructed of an acceptable material and of an acceptable size to minimize entrapment and potential injury to fish species and wildlife and
- maintained, inspected and repaired on a regular basis.

The licence holder must confine predator exclusion devices (netting) to the licensed area. Acoustical deterrents for marine mammals are prohibited.

Intertidal Beach Gear

Rack and Bag systems and vexar fencing may be proposed for containing cultured shellfish within the tenure boundaries. All structures must be affixed/ secured so as not to move off the licensed area.

Floating Upweller System (FLUPSY) or other Nursery Infrastructure

Nursery infrastructure refers to structures that are designed to set and collect seed or spat and shelter juvenile shellfish prior to out planting in grow-out systems or areas. If the aquaculture facility is within a Small Craft Harbour a letter of permission must be obtained from the local Harbour Authority and the activity authorized by [DFO Small Craft Harbours](#) Branch.

In order to culture and relay bivalve shellfish seed from waters classified as Prohibited (ie, a FLUPSY operating in a harbour), the applicant must apply to DFO for an additional licence, issued under authority of the *Management of Contaminated Fisheries Regulations (MCFR)*.

Remote Setting Equipment

Remote setting refers to temporary structures on which larval bivalves attach. For example, the practice of transferring larval bivalves to a nursery structure established in the intertidal zone to allow the shellfish larva to set onto the provided substrate. Please describe the remote setting gear and the months when it will be on site.

Site Marking

All sub-tidal and intertidal boundaries must be clearly marked.

Substrate Modification

Substrate modification refers to any activity that results in the redistribution of substrates and/or changes to grain size. Examples include construction of rock walls, trenches, berms, grading, or changes to substrate (addition, redistribution or removal).

Use of a mechanical clam harvester does not constitute substrate modification.

Please describe in detail how proposed works will be undertaken and any mitigation measures proposed. For more detailed guidance on information and elements to include in your description of proposed works, please contact shellfish.aquaculture@dfo-mpo.gc.ca.

Note: The licence holder shall inspect the facility design, equipment and anchoring systems to ensure that equipment and structures are capable of functioning as intended in the environment in which they are located.

Inspections shall be carried out when the facility is first installed and before any shellfish are introduced or transferred to the facility, any time structures or equipment are altered, as required, and at least once per year.

The licence holder shall keep and maintain a log of facility inspections conducted and of equipment maintenance actions. This log shall be made available for inspection upon request.

ADDITIONAL CONSIDERATIONS FOR AMENDMENT APPLICATIONS

Change in Tenure Area

Expansion

Applications to expand the current tenure boundary require an amendment. Please ensure that the Application Area Amendment Map and Top View Operational maps clearly indicate the existing tenured area and the new area being requested

Reduction

Applications to reduce tenure area may be considered a minor amendment if there are no other changes to the authorization, such as changes in infrastructure. Applications for minor amendments do not require referrals to other government agencies or consultation with First Nations or members of the public. If an application to reduce tenure area involves other changes, such as a change in infrastructure, the full application package may still be required.

Change in Infrastructure

Addition, Expansion or Removal of Infrastructure

A Pacific Shellfish Aquaculture Application must be submitted to Front Counter BC for review by the Province and Transport Canada. The following infrastructure types are considered standard infrastructure by DFO and, as such, DFO does not require an amendment.

Intertidal Beach Culture:

- Addition or removal of predator netting
- Addition or removal of intertidal long-lines
- Addition or removal of rack and bag systems
- Addition or removal of oyster retention fencing (e.g. Vexar fencing)

Deepwater Suspended Culture:

- Addition or removal of rafts
- Addition or removal of long lines
- Addition or removal of a FLUPSY
- Addition or removal of work floats

For changes to standard infrastructure notify the Department by email at: shellfish.aquaculture@dfo-mpo.gc.ca to update your Management Plan.

DFO will continue to review applications for changes to infrastructure not listed, or for the proposed use of infrastructure in sensitive habitats. Within each of the respective culture areas, the following sensitive habitats are to be avoided:

- Intertidal stream channels
- Eelgrass beds (*Zostera* sp.)
- Fish spawning areas

- Species at Risk Act listed species including Endangered, Threatened and Species of Special Concern residences or critical habitats
- Salt marsh, rocky reefs, kelp beds
- Glass sponge (Hexactinellidae) and/or coral complexes

Incidental use

Changes to improvements within an existing aquaculture tenure area that are not considered by the Province to be substantial alterations are considered incidental aquaculture use.

Incidental use does not require a tenure amendment. More information on eligibility can be found under Section 8.1.1. of the [Land Use Operational Policy for Aquaculture](#). If your proposal is eligible under Incidental Use, you may select the check box in Section A2 – infrastructure of the amendment application form and are not required to complete Part II (Sections A and B), nor submit provincial application fees.

Change in Culture Type and/or Culture Area

If you are changing from one of the following culture types to another, or adding an additional culture type, please check the box.

- Intertidal refers to the culture area located between high tide and chart datum
- Deepwater/Suspended culture activities are those that involve suspending growing shellfish within the water column, off the bottom of the body of water usually using containers suspended from rafts or longlines.
- Subtidal refers to the area of the sea floor below chart datum.

Changes to culture area on an existing tenure can be increases or decreases.

Change in Species and/or Production

Please indicate any changes in the table. If the species being applied for is not in listed, please contact shellfish.aquaculture@dfo-mpo.gc.ca prior to applying.

PART II – INFORMATION FOR THE BC MINISTRY OF FORESTS, LANDS AND NATURAL RESOURCE OPERATIONS AND RURAL DEVELOPMENT

The [Land Use Operational Policy for Aquaculture](#) applies to the siting and placement of improvements on tenures required for the cultivation of finfish, shellfish and marine plants on aquatic Crown land or foreshore. Please review the policy prior to completing your application. The [policy](#) is available online.

SITING CONSIDERATIONS

A number of siting considerations are defined in the provincial [Land Use Operational Policy for Aquaculture](#). Where proposals do not meet the established siting guidelines applicants must include a detailed explanation and justification for proceeding with the application.

We recommend using [Natural Resource Sector Online Services](#) or [iMapBC](#) to identify interests or conflicts in the area. Refer to the document *iMapBC Instructions for Aquaculture Applications*, available on the provincial [Land Use – Aquaculture](#) web page for Instructions on using iMapBC to research a proposed area and create the necessary maps. This instructional guide demonstrates how to add additional layers to assist in answering the siting questions. For each of the siting considerations referenced below, the applicable iMapBC layers have been identified with a “/” denoting differences between layers and sub-layers. If polygons appear when the layers are added, more information can be found by right-clicking your mouse on the polygon and selecting ‘What’s here? (Identify)’.

iMapBC also has a measuring tool to allow you to determine distance between your proposed area and other interests, e.g. provincial parks.

Does your proposal infringe on the riparian rights of an upland owner?

[iMapBC layer: Land Ownership and Status/ Integrated Cadastral Fabric](#)

Landowners of waterfront property have the right to access their property along all points of the natural boundary, or waterfront; this is commonly referred to as riparian rights. Placement of improvements should not infringe on the riparian rights of the upland owner without their consent. This applies to both private and Crown land ownership.

If the upland is privately owned, and the application infringes on riparian rights, (i.e. infrastructure will be placed such that it impedes access to the upland), you must obtain a letter of consent from the landowner(s). To determine the name of the upland owner, find the Parcel Identification (PID) Number in iMapBC, then provide the PID to the Land Title and Survey Authority which will be able to identify the upland owner.

Upland owners are not obligated to provide consent. If consent is provided, it may be time limited and is non-transferable if the landowner changes.

When the Crown owns the upland, further discussions with provincial ministries may be required as any designations on the upland parcel need to be considered.

Applicants who are unsure about the legal rights of upland owners are encouraged to independently seek legal advice.

[Sample upland owner consent letter](#)

Is the intended use consistent with approved local government bylaws for land use planning and zoning?

[IMapBC layer \(s\): Administrative Boundaries / ABMS- Regional Districts, Island Trust, Municipalities](#)

Local governments have authority to approve broad objectives, policies and guidelines respecting land use and development. Local governments exercise their authority through zoning bylaws, permits and other instruments (such as an Official Community Plan).

Applicants should contact the applicable local government to determine whether Zoning or Rural Land Use Bylaws apply to aquaculture activities on the specific parcel under application. Local governments review aquaculture applications and provide comments in relation to their Official Community Plans.

If your proposal is not consistent with the current local government land use designations, zoning or bylaws, you are strongly recommended to contact the applicable local government to discuss your proposal prior to submitting an application. Your proposal may be subject to a rezoning process. If rezoning is required, provide details and copies of any relevant correspondence between the applicant and local government. A positive decision by the Province regarding Crown land tenure does not guarantee that the activity can occur.

All tenure holders must abide by all applicable laws including zoning and bylaws.

ADDITIONAL CROWN LANDS INFORMATION

For applications made by more than one individual (N/A, Joint Tenant or Tenants in Common)

When more than one individual is identified as the proponent there are options for indicating the relationship between the parties:

- Joint Tenants (Land Tenure): In a joint tenancy situation, if one of the tenants expires, his/her interest in the land passes to the surviving joint tenant(s).
- Tenants in Common (Land Tenure): In a tenants in common situation, if one of the tenants expires, his/her interest in the land passes to his/her estate.

If a positive decision is made regarding your application, the multiple tenant relationship will be recorded on any subsequent legal documents. The preferred tenancy relationship must be declared when the application is submitted. Each person indicated in a multiple tenant relationship must meet the mandatory eligibility requirements. Applicants are encouraged to seek independent legal advice before choosing either option.

WATER USE

The *Water Sustainability Act* was passed in February 2016. Important changes include the regulation of groundwater in addition to surface water. If your proposal involves the use of a fresh water source you will need to apply for a Water Licence. More information can be found on the provincial [Water Licences & Approvals](#) web page.

PART III – INFORMATION FOR FISHERIES AND OCEANS CANADA

INDIVIDUAL APPLICANTS

Fisheries and Oceans Canada (DFO) requests that all applicants provide their date of birth. This information will only be used by DFO as a means to correctly identify licence holders. If there is more than one applicant, include the names of each applicant.

CULTURED SPECIES AND PRODUCTION

Species intended for culture other than species currently licensed by DFO (species in the 'Other' category) will require an in-depth review and/or risk assessment by the Introductions and Transfers Committee (ITC). Additional information on [introductions and transfers](#) is available on the DFO website.

For amendments, indicate all currently licensed species and Combined Peak Biomass in this section.

Access to Wild Aquatic Stock

Harvesting wild aquatic stock for aquaculture purposes (relay, on-growing, brood stock, etc.) may require a separate application.

For more information refer to the Fisheries and Oceans Canada's policy, [Access to Wild Aquatic Resources as it Applies for Aquaculture 2004](#) available on the DFO website.

NOTE: To receive additional guidance on fisheries protection or sensitive habitats, contact DFO at:

shellfish.aquaculture@dfo-mpo.gc.ca

FISHERIES PROTECTION

Like other types of industrial development taking place in and around water, aquaculture projects have the potential to affect fish and fish habitat (see definitions). In order for DFO to determine risk of any given application for a shellfish facility, management plans, specifications and habitat information may be required. The intent of this section of the Application Guide is to provide clarity pertaining to the questions in Part III of the Applications and to provide general guidance for proponents regarding siting and basic information required by DFO to assess your application. This section of the Application Guide will also identify what additional information may be required and how that information is to be collected.

There are conditions in the shellfish aquaculture licence pertaining to fisheries protection/protection of fish habitat. The [shellfish aquaculture licence and conditions](#) are posted on the DFO website.

If after reviewing the following information you have outstanding questions pertaining to your specific requirements, would like additional information on habitats outlined in Part III of the application, or are uncertain about how to answer the question, please contact Aquaculture Management at shellfish.aquaculture@dfo-mpo.gc.ca.

Habitat Siting

Proposed operations should attempt to avoid impacts to sensitive habitats that support fisheries. There are a number of websites which may have information pertaining to sensitive or important habitats. Please keep in mind that finding information online does not substitute having firsthand knowledge of the application area. One website that may be useful is: <http://cmnmaps.ca>.

The following habitats have been determined to be sensitive or important and consideration should be given to them when planning for your site and the activities in or near these habitats. Culture and associated activities should not take place in salt marshes.

- **Salt marsh:** Salt marshes are critical for many marine bio-geo-chemical processes. They also provide many terrestrial benefits including soil stabilization. Salt marshes can be simply defined as coastal areas, inundated by tidal waters, which support salt tolerant plants. There are expansive and fringing salt marshes and they may be continuous or patchy.
- **Intertidal stream channels:** Intertidal stream channels can provide spawning habitat for chum and pink salmon. They also meander and can cause losses of product and gear through both erosion as well as sediment deposition. Streams can also be a source of contamination.
- **Eelgrass and Kelp beds:** Eelgrass and kelp beds are considered important habitat for various life stages of numerous species fish and shellfish which contribute to commercial, recreational and aboriginal fisheries. Two species of eelgrass are found in BC, *Zostera marina* and *Zostera japonica*. The latter is introduced. Eelgrass can be found from predominantly intertidally to -10m of depth though this maximum depth is variable depending upon local conditions. Kelp beds can be both understory or canopy and comprised of several different algal species. Kelp beds can be found to deeper depths and again maximum depth is dependent upon local conditions. The [Coastal Resource Information Management System](#) is one source of information pertaining to eelgrass and kelp distribution. Eelgrass and kelp are highly responsive to environmental conditions and beds can expand and contract seasonally. They can be impacted via physical disturbance, shading and smothering. Installing structures near eelgrass may result in eelgrass expanding into the culture area. It is recommended that you give eelgrass beds a 10 meter buffer. For more information on conducting eelgrass surveys contact DFO at: shellfish.aquaculture@dfo-mpo.gc.ca
- **Fish spawning areas:** Many species of fish utilize the intertidal zone to spawn. Herring and squid have been known to spawn on aquaculture gear and on the

bio fouling associated with aquaculture gear. The link below will provide you with information regarding herring spawn locations in BC:

- <http://www.pac.dfo-mpo.gc.ca/science/species-especes/pelagique-pelagique/herring-hareng/herspawn/pages/default5-eng.html>
- If there is spawn on your product or gear, do not disturb it. For more information pertaining to fish that may spawn on aquaculture sites or gear please contact DFO at: shellfish.aquaculture@dfo-mpo.gc.ca.

- **SARA listed species critical habitat, and/or residence:** DFO is responsible for protecting aquatic species under the *Species at Risk Act* (SARA) which prohibits the killing, harming, harassing, capturing, harvesting, or destruction of critical habitat of a species that is listed as threatened or endangered. Aquaculture activities must not result in harm to a SARA listed species, their residence, or their critical habitat, as defined in the associated Recovery Strategy, or Action Plan. Information on [SARA](#) is available online along with the [list of registered SARA species](#). Northern Abalone and Olympia oyster are two SARA listed species which can be found within the same tidal zone that aquaculture activities occur.
- **Rocky reefs:** Rocky reefs provide complex three-dimensional habitat for many species of commercially valuable fish and shellfish. Northern Abalone is an endangered species found primarily within the tidal range of -10m to chart datum and in association with hard substrates (creviced bedrock or boulder fields for example). Rock reef crevice habitat can be lost with shell drop off. The communities associated with rock reefs can also be more sensitive to BOD (biological oxygen demand) resulting from decomposing biofouling.
- **Glass sponge complexes (*Hexactinellidae*) and/or coral complexes:** These animals are often highly susceptible to human disturbance and many take years or decades to recover if impacted. There are many resources both in print and on the internet which can help you identify the sponge, sea pens or sea whips referred to above. A few examples are included below:
 - <http://ibis.geog.ubc.ca/biodiversity/efauna/BritishColumbianCorals.html>
 - <http://ibis.geog.ubc.ca/biodiversity/efauna/SpongesofBritishColumbia.html>
 - *Marine Life of the Pacific Northwest: A Photographic Encyclopedia of Invertebrates, Seaweeds and Selected Fishes* by Andy Lamb and Bernard Hanby.
 - DFO's Pacific Region Cold-Water Coral and Sponge Conservation Strategy encompasses short and long-term goals and aims to promote the conservation, health and integrity of Canada's Pacific Ocean cold-water coral and sponge species. The Strategy also takes into consideration the need to balance the protection of marine ecosystems with the maintenance of a prosperous economy. The Strategy can be found at: <http://www.pac.dfo-mpo.gc.ca/oceans/protection/docs/cscs-pcce-eng.pdf>

PART IV – INFORMATION FOR TRANSPORT CANADA

SITING CONSIDERATIONS

Upon request, clients may be requested to provide additional information; a review pursuant to the [Navigation Protection Act](#) may require additional information that is specific to Transport Canada's mandate for marine navigation.

ADDITIONAL TRANSPORT CANADA INFORMATION

Waterway Name

The name of the water where the planned work is located *must* be included on the application. Both the official name and any local names should be noted. If the waterway has a very common name, e.g. Fish Lake, or any name which might be confused for another location, please add an identifier, e.g. "23 km west of Hwy 2 at 8th Line Rd", or include clearly written directions to the site as one of your supporting documents.

Width (m) and Depth Range (m)

The width and depth can be roughly determined by using Google Earth, Topo Maps, [Canadian Hydrographic Services](#) (CHS) navigational charts (if the subject waterway is charted) or actual measurements. In charted waterways, these measurements should refer to a chart datum (the measured elevation bench mark noted in the legend of the chart) and on uncharted waterways it should reference the normal or ordinary water level.

Nearest Community

If the proposed work is in an area that has not been surveyed, indicate the nearest community and provide the distance from the nearest kilometre post, if applicable.

New, Existing or Modification of an Existing Work

New: If your work is a new proposal that has not yet been constructed or received an authorization under the *Navigation Protection Act* (NPA).

Existing: If the work has been constructed but does not have an NPA authorization.

Modification: If the work is for the rebuild, repair or alteration of work that has an NPA authorization.

Photographs

Photographs can be very useful in determining the navigability of the waterway and the potential impacts of the works. If taking pictures of a waterway to assist the Navigation Protection Program (NPP) in making a determination, please include photographs that are representative of the waterway.